UNITED STATES PATENT AND TRADEMARK OFFICE

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10/796,503	03/08/2004	Samuel Amin	MS1-1850US	3026

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SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	04/06/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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PTOL-90A (Rev. 10/06)

	Application No.	Applicant(s)
Office Action Summary	10/796,503	AMIN ET AL.
	Examiner	Art Unit	
	Qing Chen	2191	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>08 March 2004</u>.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-29</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>1-29</u> is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on <u>08 March 2004</u> is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All b) ☐ Some * c) ☐ None of:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>20040426, 20040510</u>.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____ .

DETAILED ACTION

1.   This is the initial Office action based on the application filed on March 8, 2004.

2.   **Claims 1-29** are pending.

Information Disclosure Statement

3.   The information disclosure statement filed on April 26, 2004 fails to comply with the

provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because each publication listed in an

information disclosure statement must be identified by publisher, author (if any), title, relevant

pages of the publication, date, and place of publication. It has been placed in the application file,

but the information referred to therein has not been considered as to the merits. Applicant is

advised that the date of any re-submission of any item of information contained in this

information disclosure statement or the submission of any missing element(s) will be the date of

submission for purposes of determining compliance with the requirements based on the time of

filing the statement, including all certification requirements for statements under 37 CFR 1.97(e).

See MPEP § 609.05(a).

Drawings

4.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because

reference character "226" has been used to designate both media stream and media presentation.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office

action to avoid abandonment of the application.

Any amended replacement drawing sheet should include all of the figures appearing on

the immediate prior version of the sheet, even if only one figure is being amended. The figure or

figure number of an amended drawing should not be labeled as "amended." If a drawing figure is

to be canceled, the appropriate figure must be removed from the replacement sheet, and where

necessary, the remaining figures must be renumbered and appropriate changes made to the brief

description of the several views of the drawings for consistency. Additional replacement sheets

may be necessary to show the renumbering of the remaining figures. Each drawing sheet

submitted after the filing date of an application must be labeled in the top margin as either

"Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not

accepted by the Examiner, the Applicant will be notified and informed of any required corrective

action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5.   The disclosure is objected to because of the following informalities:

- The specification contains the following typographical errors:

  o   The letter "i" in "internet" should be changed to uppercase on page 1, paragraph

  [0003].

  o   The period (.) at the end of the sentence should be changed to a semicolon (;) on

  page 4, paragraphs [0010] and [0011].

  o   "Fig. 3" should read -- Figs. 3A-3B -- on page 4, paragraph [0012].

  o   "202" should read -- 204 -- on page 12, paragraph [0028].

- The application number for the U.S. patent application incorporated by reference is missing on page 50, paragraph [00157].

- The specification does not define what the acronyms SMIL, AAF, ASX, and DMO stand for.

Appropriate correction is required.

6.   The use of trademarks, such as MICROSOFT, has been noted in this application. Trademarks should be capitalized wherever they appear (capitalize each letter OR accompany each trademark with an appropriate designation symbol, *e.g.*, ™ or ®) and be accompanied by the generic terminology (use trademarks as adjectives modifying a descriptive noun, *e.g.*, "the JAVA programming language").

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner, which might adversely affect their validity as trademarks.

Claim Objections

7.   **Claims 4-10, 12, 13, and 21-28** are objected to because of the following informalities:

- **Claims 4-6, 8, 23-25, and 27** recite the limitation "the partial topology." Applicant is advised to change this limitation to read "the partial media topology" for the purpose of providing it with proper explicit antecedent basis.

- **Claim 9** depends on Claim 8 and, therefore, suffers the same deficiency as Claim 8.

- **Claims 4-7, 12, 13, and 23-26** recite the limitation "the cached topology." Applicant is advised to change this limitation to read "the cached media topology" for the purpose of providing it with proper explicit antecedent basis.

- **Claim 9** contains the following typographical errors:

  o A comma (,) should be added between the parent claim number and the word "wherein."

  o "... between the output of a node an input of an intermediate node" should presumably read -- ... between an output of a node and an input of an intermediate node --.

- **Claim 10** contains the following typographical errors:

  o The word "and" should be added after the first limitation.

  o The comma (,) after the limitation "... configured to sink a media stream" should be changed to a semicolon (;).

  o "one or more media sources individual ones of which serving ..." should presumably read -- one or more media sources, wherein individual ones of which serving ... --.

  o "the a resolved full media topology" should presumably read -- a resolved full media topology --.

- **Claims 21-28** contain a typographical error: a hyphen (-) should be added between the words "computer" and "readable." Applicant is advised to make the correction in order to keep the claim language consistent throughout the claims.

- **Claim 28** contains a typographical error: "... between the output of an upstream node

an input of a downstream node" should presumably read -- ... between an output of an

upstream node and an input of a downstream node --.

Appropriate correction is required.

Double Patenting

8.   The nonstatutory double patenting rejection is based on a judicially created doctrine
grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or
improper timewise extension of the "right to exclude" granted by a patent and to prevent possible
harassment by multiple assignees.   A nonstatutory obviousness-type double patenting rejection
is appropriate where the conflicting claims are not identical, but at least one examined
application claim is not patentably distinct from the reference claim(s) because the examined
application claim is either anticipated by, or would have been obvious over, the reference
claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re
Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225
USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re
Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163
USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may
be used to overcome an actual or provisional rejection based on a nonstatutory double patenting
ground provided the conflicting application or patent either is shown to be commonly owned
with this application, or claims an invention made as a result of activities undertaken within the
scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal
disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR
3.73(b).

9.   **Claims 10, 11, 14-16, and 19** are provisionally rejected on the ground of nonstatutory

obviousness-type double patenting as being unpatentable over Claims 10, 13-16, 19, 20, and 28

of copending Application No. 10/796,505 in view of **<u>Saito et al.</u> (US 2003/0101253)**.

A question of patentability is raised with respect to representative Claim 10 of the instant application under the judicially created doctrine of "obviousness-type" double patenting with respect to co-pending application 10/796,505 (Claim 10) and Saito et al. (US 2003/0101253).

Claims 10 and 20 of co-pending application 10/796,505 are compared to Claim 10 of the instant application in the tables below. The only addition to Claim 10 of the instant application is that the topology loader is configured to copy one or more nodes from a cached media topology to a resolved full media topology.

Saito et al. disclose a topology management section that recognizes the existence of an adjacent node group or neighboring node group and the connection relationship (topology) between the nodes on the basis of the topology information. The topology information of one node is added (copy) to the topology information of another node. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to copy one or more nodes from a cached media topology to a resolved full media topology as taught by Saito et al. The modification would be obvious because one of ordinary skill in the art would be motivated to recognize the existence of adjacent and neighboring nodes *(see Saito et al. – Paragraph [0079])*.

Co-Pending Application 10/796,505	Instant Application 10/796,503
10. A system comprising:	10. A system comprising:
one or more computer-readable media;	one or more computer-readable media;
a media engine embodied on the one or more computer-readable media and configured to communicatively interact with an application to present a media presentation;	a media engine embodied on the one or more computer-readable media and configured to communicatively interact with an application to present a media presentation;
the media engine being configured to use:	the media engine being configured to use:
a media session to generate a partial topology, the partial topology including one or more	a media session to generate a partial topology, the partial topology including one or more

media sources individual ones of which serving as a source of media content, and one or more media sinks configured to sink a media stream, and	media sources individual ones of which serving as a source of media content, and one or more media sinks configured to sink a media stream, and
a topology loader to resolve the partial topology into a full topology.	a topology loader to resolve the partial topology into a full topology**, wherein the topology loader is configured to copy one or more nodes from a cached media topology to the a resolved full media topology**.

Co-Pending Application 10/796,505	Instant Application 10/796,503
20. A system comprising:	10. A system comprising:
one or more computer-readable media;	one or more computer-readable media;
a media engine embodied on the one or more computer-readable media and configured to communicatively interact with an application to present a media presentation;	a media engine embodied on the one or more computer-readable media and configured to communicatively interact with an application to present a media presentation;
the media engine being configured to use:	the media engine being configured to use:
a media session to generate one or more media sources individual ones of which serving as a source of media content, and one or more media sinks configured to sink a media stream;	a media session to generate **a partial topology, the partial topology including** one or more media sources individual ones of which serving as a source of media content, and one or more media sinks configured to sink a media stream, and
a topology loader **to generate one or more transforms communicatively linked with one or more media sources and configured to operate on data received from the one or more media sources**.	a topology loader **to resolve the partial topology into a full topology, wherein the topology loader is configured to copy one or more nodes from a cached media topology to the a resolved full media topology**.

This is a _provisional_ obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 112

10.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11.   **Claims 9, 15, and 20-29** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9 recites the limitations "the one or more intermediate nodes," "the media source node," "the media sink node," and "the output." There are insufficient antecedent basis for these limitations in the claim. In the interest of compact prosecution, the Examiner subsequently interprets these limitations as reading "the one or more nodes," "the first media source node," "the first media sink node," and "an output," respectively, for the purpose of further examination.

Claims 15 and 28 recite the limitation "the output." There is insufficient antecedent basis for this limitation in the claims. In the interest of compact prosecution, the Examiner subsequently interprets this limitation as reading "an output" for the purpose of further examination.

Claims 20 and 29 recite the limitation "the full resolved media topology." There is insufficient antecedent basis for this limitation in the claims. In the interest of compact

prosecution, the Examiner subsequently interprets this limitation as reading "a full resolved

media topology" for the purpose of further examination.

Claims 21-28 depend on Claim 20 and, therefore, suffer the same deficiency as Claim

20.

Claim Rejections - 35 USC § 101

12.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or
> any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and
> requirements of this title.

13.   **Claims 10-29** are rejected under 35 U.S.C. 101 because the claimed invention is directed

to non-statutory subject matter.

Claims 10-19 are directed to systems. However, the recited components of the systems

appear to lack the necessary physical components (hardware) to constitute a machine or

manufacture under § 101. Therefore, these claim limitations can be reasonably interpreted as

computer program modules—software *per se*. Furthermore, the specification discloses that the

system is implemented in software *(see Page 10, Paragraph [0025])*. Although the claims recite

computer-readable media as a claimed element, however, the definition of computer-readable

media as provided in the specification does not limit computer-readable media to hardware

components. The claims are directed to systems of functional descriptive material *per se*, and

hence non-statutory.

The claims constitute computer programs representing computer listings *per se*. Such descriptions or expressions of the programs are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer, which permit the computer program's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a computer program is a computer element, which defines structural and functional interrelationships between the computer program and the rest of the computer, that permits the computer program's functionality to be realized, and is thus statutory. See *Lowry*, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claims 20-28 recite computer-readable media as a claimed element. However, it is noted that the specification describes such computer-readable media as comprising communication media, which typically embodies computer-readable instructions, data structures, program modules or other data in a modulated data signal such as a carrier wave or other transport mechanism and includes any information delivery media *(see Page 54, Paragraph [00168])*. Furthermore, the specification also discloses that programs are typically distributed, for example, on some form of communication media such as a modulated signal *(see Page 53, Paragraph [00165])*. These are intrinsic evidence of electrical signals and, therefore, the computer-readable media can be reasonably interpreted as carrying electrical signals. In addition, the limitation of "computer-readable media <u>comprising</u> (emphasis added) computer executable instructions" can be reasonably interpreted as the computer-readable media carrying or transmitting electrical

signals, since the computer executable instructions are not recorded on the computer-readable media, so as to permit the function of the descriptive material to be realized when executed.

Claims that recite nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism *per se*, and as such are non-statutory natural phenomena. *O'Reilly v. Morse*, 56 U.S. (15 How.) 62, 112-14 (1853). Moreover, it does not appear that a claim reciting a signal encoded with functional descriptive material falls within any of the categories of patentable subject matter set forth in § 101.

Claim 29 contains "means-plus-function" limitations. However, it is noted that the specification does not disclose any specific corresponding structure or equivalents thereof. The recited means appear to lack the necessary physical components (hardware) to constitute a machine or manufacture under § 101. Therefore, these claim limitations can be reasonably interpreted as computer program modules—software *per se*. Furthermore, the claim is directed to a topology loader module, which appears to be functional descriptive material *per se*, since the claim lacks the necessary physical components (hardware) to constitute a machine or manufacture under § 101. The claim is directed to functional descriptive material *per se*, and hence non-statutory.

The claim constitutes computer programs representing computer listings *per se*. Such descriptions or expressions of the programs are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the

computer program and other claimed elements of a computer, which permit the computer

program's functionality to be realized. In contrast, a claimed computer-readable medium

encoded with a computer program is a computer element, which defines structural and functional

interrelationships between the computer program and the rest of the computer, that permits the

computer program's functionality to be realized, and is thus statutory. See *Lowry*, 32 F.3d at

1583-84, 32 USPQ2d at 1035.

Claim Rejections - 35 USC § 102

14.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

15.   **Claims 1, 4, 5, 7-10, 13, 17-20, 23, 24, and 26-29** are rejected under 35 U.S.C. 102(e) as

being anticipated by **Saito et al.** (US 2003/0101253).

        As per **Claim 1**, Saito et al. disclose:

        -    receiving a partial media topology that includes a plurality of nodes including at least

a first media source node and at least a first media sink node *(see Paragraph [0057], "All the*

nodes 10 constituting the stream data decentralized distribution system have the identical

software configurations to implement stream data transmission, reception, relay, and playback

functions. "; Paragraph [0073], "... the local node 10 receives topology information (TI) from

an upstream node, and registers it as the topology table 301. ");

- retrieving a cached media topology that includes a plurality of nodes including at

least a second media source node, at least a second media sink node, and at least one transform

node *(see Paragraph [0057], "All the nodes 10 constituting the stream data decentralized*

distribution system have the identical software configurations to implement stream data

transmission, reception, relay, and playback functions. "; Paragraph [0074], "Assume that the

node 10 with node0 provides downstream nodes (node1 and node4) with topology information

(TI-0) recording the connection relationship with the downstream nodes (node1 and node4). ");

and

- copying one or more nodes from the cached media topology to the partial media

topology *(see Paragraph [0075], "... the downstream node (node1) generates topology*

information (TI-1) by adding this connection relationship to the topology information (TI-0)

provided from the upstream node (node0), and provides the information to the downstream

nodes (node2 and node3) (see FIG. 15B). ").

As per **Claim 4**, the rejection of **Claim 1** is incorporated; and <u>Saito et al.</u> further disclose:

- determining whether there are corresponding nodes in the partial media topology and

the cached media topology *(see Paragraph [0079], "... each node can recognize the existence of*

adjacent and neighboring nodes ... ").

As per **Claim 5**, the rejection of **Claim 4** is incorporated; and <u>Saito et al.</u> further disclose:

- transferring the at least one transform node from the cached media topology to the

partial media topology *(see Paragraph [0075], "... the downstream node (node1) generates*

topology information (TI-1) by adding this connection relationship to the topology information

(TI-0) provided from the upstream node (node0), and provides the information to the

downstream nodes (node2 and node3) (see FIG. 15B).").

As per **Claim 7**, the rejection of **Claim 1** is incorporated; and <u>Saito et al.</u> further disclose:

- maintaining a data table that correlates one or more decoders in the cached media

topology with one or more source nodes in the cached media topology *(see Paragraph [0063],*

"The stream playback section 34 is software for decoding the stream data into video and audio

data to be output and playing it back. The stream switch section 32 also implements the function

of extracting stream data from the digital video camera (DVC) 13 or a local file apparatus 36

and transferring it to the stream engine 31 so as to transmit it to other nodes."; Paragraph

[0074], "... this topology information (TI-0) is an information table in which the node identifies

(node0, node1, and node4) with which the local node has a connection relationship are made to

correspond to the identifier of the upstream node (only node0) as an adjacent node (to which the

local node is directly connected).").

As per **Claim 8**, the rejection of **Claim 1** is incorporated; and <u>Saito et al.</u> further disclose:

- connecting one or more nodes in the partial media topology *(see Paragraph [0075],*

"... the downstream node (node1) generates topology information (TI-1) by adding this

connection relationship to the topology information (TI-0) provided from the upstream node

(node0), and provides the information to the downstream nodes (node2 and node3) (see FIG. 15B).").

As per **Claim 9**, the rejection of **Claim 8** is incorporated; and Saito et al. further disclose:

- wherein connecting the one or more nodes between the first media source node and the first media sink node comprises generating a data path between an output of a node and an input of an intermediate node *(see Paragraph [0075], "... the downstream node (node1) generates topology information (TI-1) by adding this connection relationship to the topology information (TI-0) provided from the upstream node (node0), and provides the information to the downstream nodes (node2 and node3) (see FIG. 15B).").*

As per **Claim 10**, Saito et al. disclose:

- one or more computer-readable media *(see Page 16, "A computer-readable storage medium ...")*; and

- a media engine embodied on the one or more computer-readable media and configured to communicatively interact with an application to present a media presentation *(see Figure 3: 30 and 34)*;

- the media engine being configured to use:

- a media session to generate a partial topology, the partial topology including one or more media sources, wherein individual ones of which serving as a source of media content, and one or more media sinks configured to sink a media stream *(see Paragraph [0057]; Paragraph [0059], "... the topology engine 30 implements the function of establishing a network*

connection relationship (topology) among the respective nodes 10 by exchanging messages

(control information)."); and

 -     a topology loader to resolve the partial topology into a full topology, wherein the

topology loader is configured to copy one or more nodes from a cached media topology to a

resolved full media topology *(see Paragraph [0070], "The topology management section 300*

stores a topology information table conforming to the table format of the topology information

(TI) in the topology table 301 (TI will be written as an information table in some cases). The

topology management section 300 updates the information table (TI) stored in the topology table

301 in accordance with a change in the topology between the nodes.").

As per **Claim 13,** the rejection of **Claim 10** is incorporated; and <u>Saito et al.</u> further

disclose:

 -     wherein the topology loader is configured to determine whether there are

corresponding nodes in the partial topology and the cached media topology *(see Paragraph*

[0079], "... each node can recognize the existence of adjacent and neighboring nodes ...").

As per **Claim 17,** the rejection of **Claim 10** is incorporated; and <u>Saito et al.</u> further

disclose:

 -     wherein the topology loader is configured to maintain a data table that associates one

or more decoder nodes with a source node from one or more previous topologies *(see Paragraph*

[0063], "The stream playback section 34 is software for decoding the stream data into video and

audio data to be output and playing it back. The stream switch section 32 also implements the

function of extracting stream data from the digital video camera (DVC) 13 or a local file

apparatus 36 and transferring it to the stream engine 31 so as to transmit it to other nodes.";

Paragraph [0074], "... this topology information (TI-0) is an information table in which the

node identifies (node0, node1, and node4) with which the local node has a connection

relationship are made to correspond to the identifier of the upstream node (only node0) as an

adjacent node (to which the local node is directly connected).").

As per **Claim 18,** the rejection of **Claim 10** is incorporated; and <u>Saito et al.</u> further

disclose:

- wherein the topology loader maintains a data table that stores one or more encoder

nodes from one or more previous topologies *(see Paragraph [0062], "The stream engine 31 has*

a general-purpose distribution function independent of the data format (encoding scheme) of

stream data, and can be applied to various data formats such as a format conforming to MPEG

specifications."; Paragraph [0074], "... this topology information (TI-0) is an information table

in which the node identifies (node0, node1, and node4) with which the local node has a

connection relationship are made to correspond to the identifier of the upstream node (only

node0) as an adjacent node (to which the local node is directly connected).").

As per **Claim 19,** the rejection of **Claim 10** is incorporated; and <u>Saito et al.</u> further

disclose:

- wherein the topology loader returns a fully resolved topology to the media session

(see Paragraph [0071], "The topology management section 300 transfers the node identifiers

(network addresses) of adjacent nodes to which the local node is directly connected, i.e., an

upstream node (a single node in general) and one or a plurality of downstream nodes, to the

stream engine 31.").

As per **Claim 20**, <u>Saito et al.</u> disclose:

-   receive a partial media topology that includes a plurality of nodes including at least a

first media source node and at least a first media sink node *(see Paragraph [0057], "All the*

nodes 10 constituting the stream data decentralized distribution system have the identical

software configurations to implement stream data transmission, reception, relay, and playback

functions."; Paragraph [0073], "... the local node 10 receives topology information (TI) from

an upstream node, and registers it as the topology table 301.");

-   retrieve a cached media topology that includes a plurality of nodes including at least a

second media source node, at least a second media sink node, and at least one transform node

(see Paragraph [0057], "All the nodes 10 constituting the stream data decentralized distribution

system have the identical software configurations to implement stream data transmission,

reception, relay, and playback functions."; Paragraph [0074], "Assume that the node 10 with

node0 provides downstream nodes (node1 and node4) with topology information (TI-0)

recording the connection relationship with the downstream nodes (node1 and node4)."); and

-   copy one or more nodes from the cached media topology to a full resolved media

topology *(see Paragraph [0075], "... the downstream node (node1) generates topology*

information (TI-1) by adding this connection relationship to the topology information (TI-0)

provided from the upstream node (node0), and provides the information to the downstream

nodes (node2 and node3) (see FIG. 15B).").

As per **Claim 23**, the rejection of **Claim 20** is incorporated; and <u>Saito et al.</u> further

disclose:

- determine whether there are corresponding nodes in the partial media topology and

the cached media topology *(see Paragraph [0079], "... each node can recognize the existence of*

adjacent and neighboring nodes ...").

As per **Claim 24**, the rejection of **Claim 20** is incorporated; and <u>Saito et al.</u> further

disclose:

- transfer the at least one transform node from the cached media topology to the partial

media topology *(see Paragraph [0075], "... the downstream node (node1) generates topology*

information (TI-1) by adding this connection relationship to the topology information (TI-0)

provided from the upstream node (node0), and provides the information to the downstream

nodes (node2 and node3) (see FIG. 15B).").

As per **Claim 26**, the rejection of **Claim 20** is incorporated; and <u>Saito et al.</u> further

disclose:

- maintain a data table that correlates one or more decoders in the cached media

topology with one or more source nodes in the cached media topology *(see Paragraph [0063],*

"The stream playback section 34 is software for decoding the stream data into video and audio

data to be output and playing it back. The stream switch section 32 also implements the function

of extracting stream data from the digital video camera (DVC) 13 or a local file apparatus 36

and transferring it to the stream engine 31 so as to transmit it to other nodes.''; Paragraph

[0074], "... this topology information (TI-0) is an information table in which the node identifies

(node0, node1, and node4) with which the local node has a connection relationship are made to

correspond to the identifier of the upstream node (only node0) as an adjacent node (to which the

local node is directly connected).'').

As per **Claim 27**, the rejection of **Claim 20** is incorporated; and <u>Saito et al.</u> further

disclose:

- connect one or more nodes in the partial media topology *(see Paragraph [0075], "...*

the downstream node (node1) generates topology information (TI-1) by adding this connection

relationship to the topology information (TI-0) provided from the upstream node (node0), and

provides the information to the downstream nodes (node2 and node3) (see FIG. 15B).'').

As per **Claim 28**, the rejection of **Claim 20** is incorporated; and <u>Saito et al.</u> further

disclose:

- generate a data path between an output of an upstream node and an input of a

downstream node *(see Paragraph [0075], "... the downstream node (node1) generates topology*

information (TI-1) by adding this connection relationship to the topology information (TI-0)

provided from the upstream node (node0), and provides the information to the downstream

nodes (node2 and node3) (see FIG. 15B).'').

Claim 29 is a topology loader module claim corresponding to the computer-readable

media claim above (Claim 20) and, therefore, is rejected for the same reason set forth in the

rejection of Claim 20.

Claim Rejections - 35 USC § 103

16.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

17.   **Claims 2, 3, 11, 12, 21, and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable

over **Saito et al.** (US 2003/0101253) in view of **Iwata** (US 6,385,201).

As per **Claim 2**, the rejection of **Claim 1** is incorporated; however, Saito et al. do not

disclose:

-      wherein the partial media topology is received from a remote process as a parameter

in an interface call.

Iwata discloses:

-      wherein the partial media topology is received from a remote process as a parameter

in an interface call *(see Column 2: 3-9, "The peer group leader node comprises negotiating*

means for exchanging aggregation parameters with other peer group leader nodes to agree on

negotiated aggregation parameters, topology aggregating means for aggregating physical topology of the border nodes of the peer group into a logical star topology using the negotiated aggregation parameters ...").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Iwata into the teaching of Saito et al. to include wherein the partial media topology is received from a remote process as a parameter in an interface call. The modification would be obvious because one of ordinary skill in the art would be motivated to hide the topology internals of peer groups in the interest of security *(see Iwata – Column 1: 17-20).*

As per **Claim 3**, the rejection of **Claim 1** is incorporated; however, Saito et al. do not disclose:

- wherein the cached media topology is retrieved as a parameter in an interface call.

Iwata discloses:

- wherein the cached media topology is retrieved as a parameter in an interface call *(see Column 2: 3-9, "The peer group leader node comprises negotiating means for exchanging aggregation parameters with other peer group leader nodes to agree on negotiated aggregation parameters, topology aggregating means for aggregating physical topology of the border nodes of the peer group into a logical star topology using the negotiated aggregation parameters ...").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Iwata into the teaching of Saito et al. to include wherein the cached media topology is retrieved as a parameter in an interface call. The

modification would be obvious because one of ordinary skill in the art would be motivated to

hide the topology internals of peer groups in the interest of security *(see Iwata – Column 1: 17-*

20).

As per **Claim 11**, the rejection of **Claim 10** is incorporated; however, Saito et al. do not

disclose:

-   wherein the media session passes the partial topology to the topology loader as a

parameter in an interface call.

Iwata discloses:

-   wherein the media session passes the partial topology to the topology loader as a

parameter in an interface call *(see Column 2: 3-9, "The peer group leader node comprises*

negotiating means for exchanging aggregation parameters with other peer group leader nodes to

agree on negotiated aggregation parameters, topology aggregating means for aggregating

physical topology of the border nodes of the peer group into a logical star topology using the

negotiated aggregation parameters ... ").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to incorporate the teaching of Iwata into the teaching of Saito et al. to

include wherein the media session passes the partial topology to the topology loader as a

parameter in an interface call. The modification would be obvious because one of ordinary skill

in the art would be motivated to hide the topology internals of peer groups in the interest of

security *(see Iwata – Column 1: 17-20)*.

As per **Claim 12**, the rejection of **Claim 10** is incorporated; however, <u>Saito et al.</u> do not disclose:

- wherein the media session passes the cached media topology to the topology loader as a parameter in an interface call.

<u>Iwata</u> discloses:

- wherein the media session passes the cached media topology to the topology loader as a parameter in an interface call *(see Column 2: 3-9, "The peer group leader node comprises negotiating means for exchanging aggregation parameters with other peer group leader nodes to agree on negotiated aggregation parameters; topology aggregating means for aggregating physical topology of the border nodes of the peer group into a logical star topology using the negotiated aggregation parameters ...").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of <u>Iwata</u> into the teaching of <u>Saito et al.</u> to include wherein the media session passes the cached media topology to the topology loader as a parameter in an interface call. The modification would be obvious because one of ordinary skill in the art would be motivated to hide the topology internals of peer groups in the interest of security *(see <u>Iwata</u> – Column 1: 17-20).*

As per **Claim 21**, the rejection of **Claim 20** is incorporated; however, <u>Saito et al.</u> do not disclose:

- wherein the partial media topology is received from a remote process as a parameter in an interface call.

Iwata discloses:

- wherein the partial media topology is received from a remote process as a parameter in an interface call *(see Column 2: 3-9, "The peer group leader node comprises negotiating means for exchanging aggregation parameters with other peer group leader nodes to agree on negotiated aggregation parameters, topology aggregating means for aggregating physical topology of the border nodes of the peer group into a logical star topology using the negotiated aggregation parameters ... ").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Iwata into the teaching of Saito et al. to include wherein the partial media topology is received from a remote process as a parameter in an interface call. The modification would be obvious because one of ordinary skill in the art would be motivated to hide the topology internals of peer groups in the interest of security *(see Iwata – Column 1: 17-20).*

As per **Claim 22**, the rejection of **Claim 20** is incorporated; however, Saito et al. do not disclose:

- wherein the cached media topology is retrieved as a parameter in an interface call.

Iwata discloses:

- wherein the cached media topology is retrieved as a parameter in an interface call *(see Column 2: 3-9, "The peer group leader node comprises negotiating means for exchanging aggregation parameters with other peer group leader nodes to agree on negotiated aggregation*

parameters, topology aggregating means for aggregating physical topology of the border nodes

of the peer group into a logical star topology using the negotiated aggregation parameters ...").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to incorporate the teaching of Iwata into the teaching of Saito et al. to

include wherein the cached media topology is retrieved as a parameter in an interface call. The

modification would be obvious because one of ordinary skill in the art would be motivated to

hide the topology internals of peer groups in the interest of security *(see Iwata – Column 1: 17-*

20).

18.   **Claims 6, 14-16, and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over

Saito et al. (US 2003/0101253) in view of **McNally et al.** (US 6,549,932).

As per **Claim 6**, the rejection of **Claim 1** is incorporated; however, Saito et al. do not

disclose:

-    cloning a plurality of connected nodes from the cached media topology into the

partial media topology.

McNally et al. disclose:

-    cloning a plurality of connected nodes from the cached media topology into the

partial media topology *(see Column 11: 50-54, "If the outcome of the test at step 70 is positive,*

the software agent is cloned at step 72 and then launched over an identified path at step 74. This

routine continues in an iterative manner until all software agents have either extinguished

themselves or returned back to the dispatcher.").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to incorporate the teaching of McNally et al. into the teaching of Saito et al.

to include cloning a plurality of connected nodes from the cached media topology into the partial

media topology. The modification would be obvious because one of ordinary skill in the art

would be motivated to maintain the (software) agent at the platform, and thus, a future operation

at the node may be simplified by having a previously executed (software) agent (or some portion

thereof) already resident *(see McNally et al. – Column 11: 38-46)*.

As per **Claim 14**, the rejection of **Claim 10** is incorporated; and Saito et al. further

disclose:

- wherein the topology loader is configured to connect the one or more intermediate

nodes in a communication path between a media source and a media sink in a partial topology

(see Paragraph [0075], "... the downstream node (node1) generates topology information (TI-1)

by adding this connection relationship to the topology information (TI-0) provided from the

upstream node (node0), and provides the information to the downstream nodes (node2 and

node3) (see FIG. 15B).").

However, Saito et al. do not disclose:

- wherein the topology loader is configured to clone one or more intermediate nodes

from the cached media topology.

McNally et al. disclose:

- wherein the topology loader is configured to clone one or more intermediate nodes

from the cached media topology *(see Column 11: 50-54, "If the outcome of the test at step 70 is*

positive, the software agent is cloned at step 72 and then launched over an identified path at step

74. This routine continues in an iterative manner until all software agents have either

extinguished themselves or returned back to the dispatcher. ").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to incorporate the teaching of McNally et al. into the teaching of Saito et al.

to include wherein the topology loader is configured to clone one or more intermediate nodes

from the cached media topology. The modification would be obvious because one of ordinary

skill in the art would be motivated to maintain the (software) agent at the platform, and thus, a

future operation at the node may be simplified by having a previously executed (software) agent

(or some portion thereof) already resident *(see McNally et al. – Column 11: 38-46).*

As per **Claim 15**, the rejection of **Claim 14** is incorporated; and Saito et al. further

disclose:

- wherein the one or more intermediate nodes comprise a decoder for decoding an

output of a source node *(see Paragraph [0063], "The stream playback section 34 is software for*

decoding the stream data into video and audio data to be output and playing it back. The stream

switch section 32 also implements the function of extracting stream data from the digital video

camera (DVC) 13 or a local file apparatus 36 and transferring it to the stream engine 31 so as to

transmit it to other nodes. ").

As per **Claim 16**, the rejection of **Claim 14** is incorporated; and Saito et al. further

disclose:

- wherein the one or more intermediate nodes comprises an encoder for encoding an input of a source node *(see Paragraph [0062], "The stream engine 31 has a general-purpose distribution function independent of the data format (encoding scheme) of stream data, and can be applied to various data formats such as a format conforming to MPEG specifications.").*

As per **Claim 25**, the rejection of **Claim 20** is incorporated; however, Saito et al. do not disclose:

- clone a plurality of connected nodes from the cached media topology into the partial media topology.

McNally et al. disclose:

- clone a plurality of connected nodes from the cached media topology into the partial media topology *(see Column 11: 50-54, "If the outcome of the test at step 70 is positive, the software agent is cloned at step 72 and then launched over an identified path at step 74. This routine continues in an iterative manner until all software agents have either extinguished themselves or returned back to the dispatcher.").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of McNally et al. into the teaching of Saito et al. to include clone a plurality of connected nodes from the cached media topology into the partial media topology. The modification would be obvious because one of ordinary skill in the art would be motivated to maintain the (software) agent at the platform, and thus, a future operation at the node may be simplified by having a previously executed (software) agent (or some portion thereof) already resident *(see McNally et al. – Column 11: 38-46).*

Conclusion

19.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

Any inquiry concerning this communication or earlier communications from the

Examiner should be directed to Qing Chen whose telephone number is 571-270-1071. The

Examiner can normally be reached on Monday through Thursday from 7:30 AM to 4:00 PM.

The Examiner can also be reached on alternate Fridays.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's

supervisor, Wei Zhen, can be reached on 571-272-3708. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the TC 2100 Group receptionist whose telephone number is 571-272-2100.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

QC   /   *QC*
March 20, 2007

WEI ZHEN
SUPERVISORY PATENT EXAMINER